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SOFTWARE REPORTS

Manufacturers of software, which may be of interest to readers of this journal, are invited to submit their product to our Editorial Offices (Box 1040, Washington University, St Louis, MO 63130 U.S.A.) for evaluation.

1. We accept for review mathematical, engineering and scientific software.
2. Software submitted for review must contain complete documentation.
3. Presently we accept software for the following computers: SUN 4, Macintosh II, IBM PC AT. The reason is that these are the computers we have currently in our editorial offices, where we perform the testing.
4. We have an unusual reviewing procedure, consisting of the following:
   (a) Each software vendor is requested to submit a description, not longer than 1 journal page of their product. This description must be as complete as possible.
   (b) Our review process consists of checking out the claims made about the software in the vendor's own description.
   (c) Should the product pass our test, we publish the vendor's description as a report.
   (d) If the software does not pass the test, we notify the vendor and request that either the software or the writeup of it be modified.

DERIVE

A Mathematical Assistant

System requirements

PC compatible computers running MS-DOS or PC-DOS version 2.1 or later, or running the PS/2 operating system. 512K memory and at least one $3\frac{1}{2}''$ or $5\frac{1}{4}''$ diskette drive.

Description

Derive is a menu-driven computer algebra system for those involved in the manipulation of mathematical expressions (engineers, scientists, educators, students, etc.). The package is the successor to Soft Warehouse's earlier package muMATH, the first PC based computer algebra system.

Derive intelligently applies the rules of algebra, trigonometry, calculus and matrix algebra to solve a wide range of mathematical problems. This nonnumeric approach goes far beyond the capabilities of mere statistics packages and equation solvers that use only approximate numerical techniques.

Derive has an interactive style with menu-driven commands and extensive Help files. Its user interface is the easiest and friendliest of the computer algebra packages. Derive's easy-to-master approach, in combination with the fact that it is the only package to run effectively on MS/PC-DOS computers, makes it the best choice for many users.

The package is as simple and natural to use as a pocket calculator. First, enter a formula using standard mathematical operators and functions. The formula is displayed in an easy to comprehend 2D format using raised exponents and built-up fractions. The formula can then be simplified, plotted, approximated, expanded, factored, placed over a common denominator, differentiated or integrated. Equations and inequalities can be solved analytically or approximately. Matrices can be added, multiplied, transposed or inverted.

In addition, Derive supports 2D and 3D function plotting, exact or approximate arithmetic to thousands of digits, and monochrome or color graphics monitors. These features, plus Derive's high performance, modest memory requirements, and low cost make it highly competitive among computer algebra systems in the personal computer market.

Price

$200 plus shipping and handling. Package includes a well-designed and clearly written 120 page manual. Contact Soft Warehouse for detailed product description and ordering information:

Soft Warehouse, Inc.
3615 Harding Avenue, Suite 505
Honolulu, HI 96816, U.S.A.
Tel.: (808) 734-5801

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muLISP-87

A LISP Language Programming Environment for Personal Computers

System requirements

Personal computers running MS-DOS or PC-DOS version 2.1 or later, or running the PS/2 operating system. 256K of memory and at least one $3\frac{1}{2}''$ or $5\frac{1}{4}''$ diskette drive.

Description

muLISP-87 is an impressive product for both novice and professional LISP programmers, and is the most efficient, reliable, and compact implementation of LISP available for microcomputers. The program can run in as little as 256K, but can utilize up to 640K memory. An optional native code compiler further improves the speed of the already impressively fast muLISP-87 pseudo-code interpreter.

muLISP-87 incorporates many of the advanced programming features previously available only in mainframe implementations of LISP. In addition to over 450 Common LISP functions, macros and special forms, muLISP-87 provides the software engineer with a screen-oriented editor and debugger that are fully integrated into an easily used windowing system.

Because it is designed to take full advantage of the segmented architecture of the 8086 microprocessor, muLISP-87 typically executes application programs at least 3 times faster than other 8086 based LISP systems. Also, muLISP-87s unique pseudo-code compilation means it can store 2–3 times more program and data in a given amount of computer memory than other LISP systems.

Package components

The Machine Language Kernel contains the interpreter, memory manager and over 400 functions, special forms and control variables.

The Package Library includes Common LISP, Irrational Function, Array, Structure, Flavors, Graphics and Closure packages to complement the facilities provided by the machine language kernel.

The Program Development System provides a powerful window-based programming environment for the interactive development of sophisticated AI software. It includes a Window Manager, Editor, Debugger, Compiler (optional), and Runtime System.

The Documentation meets the needs of both the novice and professional. It includes an interactive Tutorial System which covers all the basic features of LISP plus the additional features in muLISP-87, a superbly designed and written 500 page Reference Manual, and an on-line Help Facility.

Price

Interpreter $300, Interpreter and Compiler $400; plus shipping and handling. Contact Soft Warehouse for detailed product description and ordering information:

Soft Warehouse, Inc.
3615 Harding Avenue, Suite 505
Honolulu, HI 96816, U.S.A.
Tel.: (808) 734-5801